CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 91 - 147

WATER RECLAMATION REQUIREMENTS FOR:

FAIRFIELD-SUISUN SEWER DISTRICT,
SOLANO IRRIGATION DISTRICT, AND
FAIRFIELD-SUISUN SEWER DISTRICT RECLAIMED WATER USERS,
IN SOLANO COUNTY, CALIFORNIA

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. The Fairfield-Suisun Sewer District (FSSD) owns and operates the Fairfield-Suisun Subregional Wastewater Treatment Plant which provides tertiary level treatment for combined domestic and industrial wastewater from the Cities of Fairfield and Suisun City, including Travis Air Force Base and an Anheuser-Busch brewery.

2. The treatment plant has an average dry weather flow design capacity of 17.5 million gallons per day (MGD). The plant presently discharges an average dry weather flow of 11.6 MGD and an annual average effluent flow of 12.8 MGD.

3. Treated effluent is either reclaimed for irrigation or discharged to surface waters. Treated effluent is discharged to surface waters either through a shallow-water outfall to Boynton Slough, a tributary to Suisun Slough and Suisun Bay, or to managed duck ponds in Suisun Marsh. These discharges of treated effluent to surface waters are regulated by Waste Discharge Requirements in Order No. 90-101, adopted by the Board on July 18, 1990, which also serves as a permit under the National Pollutant Discharge Elimination System (NPDES No. CA0038024).

4. Treated effluent which is reclaimed for agricultural irrigation is distributed to users by the Solano Irrigation District (SID) through SID's irrigation water pipes and open channels. The production, distribution and use of this reclaimed water, which is the subject of this Order, is presently regulated by Water Reclamation Requirements in Order No. 78-43, adopted by the Board on June 20, 1978.

5. FSSD, on behalf of FSSD and SID, filed a Report of Waste Discharge dated March 13, 1990 for updating and reissuance of Water Reclamation Requirements for production, distribution and use of reclaimed water for agricultural irrigation including spray irrigation of food crops.

6. The wastewater treatment process presently consists of the following:

   Influent receives preliminary treatment by comminution (3 units), grit removal (2 aerated chambers), and primary sedimentation (4 rectangular basins). Primary effluent receives biological treatment by roughing filters (3 oxidation towers), and then intermediate clarification (2 circular clarifiers). Intermediate effluent receives biological treatment using an activated sludge process (4 aeration basins) which incorporates nitrification, followed by secondary clarification (4 circular clarifiers).

   Secondary-treated effluent is stored in balancing reservoirs (2 reservoirs; 12.7 million gallons (MG) total effective volume; 22 MG maximum storage volume), and is then pumped to the tertiary filters (8 dual-media filters, anthracite and sand, with chemical coagulation).

   Tertiary treated effluent is disinfected using chlorine (2 contact tanks; 120 minutes contact time), and dechlorinated using sulfur dioxide. Effluent flow is measured through a parshall flume, and the flow is then split to either the final effluent holding reservoirs (3 reservoirs; 20.4 MG total effective volume; 31.5 MG maximum storage volume) or to the Boynton Slough outfall.

7. Treated effluent for reclamation is either pumped from the final holding reservoirs to the Solano Irrigation District distribution system, or is diverted from the effluent pipe leading to the Boynton Slough outfall, as needed. SID determines the quantity of reclaimed water to be released to its distribution system, and FSSD adjusts the plant effluent distribution system accordingly.

8. The titles Producer, User and Discharger are used throughout this Order to identify and delineate which entities are responsible for achieving, maintaining and ensuring compliance with the various requirements of this Order. The Fairfield-Suisun Sewer District is called the Producer of the reclaimed water. The Solano Irrigation District (SID) and all end-users of the reclaimed water are collectively called the User. The Producer and User are collectively called the Discharger.

9. FSSD, as producer of the reclaimed water, is responsible for the operation and maintenance of the treatment plant, and for the quality of the effluent distributed to the SID distribution system.

10. SID, as distributor of the reclaimed water, is responsible for the operation and maintenance of the reclaimed water distribution system, and for final distribution of the reclaimed water.

11. SID and the City of Fairfield signed a contract in 1974, with FSSD as a co-signer, granting to SID the water rights to all treatment plant effluent which meets the Board's discharge requirements, up to 12 MGD, between May 1 and September 1. Flows not governed by the 1974 agreement may be contracted to SID or other users in the future. All provisions of this Order shall apply to future users.

12. Currently, the primary user of reclaimed water is Warrens Turf Nursery, for spray irrigation of turf grown and harvested for commercial resale, on property immediately west, north and east of the FSSD treatment plant property. FSSD also uses a relatively small quantity of reclaimed water for in-plant uses and landscape irrigation on FSSD property. Additional uses and users may be allowed in the future, with written authorization by the Board's Executive Officer. A map showing the location of the turf nursery use areas is included as Attachment A of this Order.

13. FSSD is conducting a pilot program to investigate the dual use of selected collection system pump station force mains as reclaimed water distribution pipes during the dry weather season, when these force mains are not needed for handling ordinary flows. The force main is isolated from the raw sewage collection system at both the pump station and treatment plant, and used in a reverse flow mode to pump reclaimed water from the treatment plant to the pump station. The force main is initially flushed with reclaimed water, which is returned to the plant by a separate pipeline. Subsequent reclaimed water flows are used for landscape irrigation on the pump station grounds.

    Use of reclaimed water distributed in this manner is presently limited to irrigation of pump station landscaping. Additional uses may be allowed in the future with prior written approval from the Board's Executive Officer.

14. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The goals to be used in regulating water quality as set forth in the Basin Plan include maximum feasible reclamation or reuse of municipal, industrial and agricultural wastewaters. The Basin Plan identifies beneficial uses of surface and ground waters and marshes in the region to be protected.

15. The beneficial uses of surface waters in the vicinity of the project identified in the Basin Plan include:

    a. Fresh Water Replenishment
    b. Water Contact and Non-Contact Water Recreation
    c. Warm and Cold Fresh Water Habitat
    d. Wildlife Habitat
    e. Fish Spawning and Migration

16. The beneficial uses of groundwaters in the vicinity of the project identified in the Basin Plan include:

    a. Municipal Water Supply
    b. Agricultural Water Supply
    c. Industrial Process and Non-Process Water Supply

17. The beneficial uses of Suisun Marsh identified in the Basin Plan include:

    a. Water Contact and Non-Contact Water Recreation
    b. Wildlife Habitat
    c. Preservation of Rare and Endangered Species
    d. Estuarine Habitat
    e. Fish Spawning and Migration
    f. Freshwater and Brackish Marsh

18. Section 13523 of the California Water Code provides that a Regional Board, after consultation with and reception of recommendations from the State Department of Health Services, and if it determines such action to be necessary to protect the public health, safety or welfare, shall prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water.

19. The water reclamation requirements prescribed by this Order are in conformance with the statewide reclamation criteria established by the State Department of Health Services, as prescribed in Title 22, Sections 60301 through 60355, California Code of Regulations.

20. The FSSD approved an Environmental Impact Report (EIR) for the reclamation project (Wastewater Management and Reclamation Facilities EIR for the Fairfield-Suisun Subregional Area, May, 1974), in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). The project as described in the EIR will not have a significant adverse impact on the environment, with proper implementation of the mitigation measures identified in the EIR.

21. The Board has notified the Discharger, and interested agencies and persons of its intent to prescribe water reclamation requirements for the discharge reuse described above.

22. The Board, in a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, that the **Discharger** shall comply with the following:

A. Prohibitions

1. The treatment, storage, distribution or reuse of reclaimed water shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. There shall be no bypass or overflow of untreated or partially treated wastewater to waters of the State from the Discharger's collection, treatment, storage, distribution or disposal facilities.

3. No reclaimed water shall be allowed to escape from the authorized use area by airborne spray; nor by surface flow except in minor amounts associated with good irrigation practices.

4. The use of reclaimed water shall not cause the degradation of groundwater used for domestic purposes or cause any change in a quality parameter which would make the groundwater unsuitable for irrigation use.

5. The discharge of toxic substances into reclaimed water storage ponds or open-surface distribution channels which would disturb the normal biological mechanisms of these water bodies is prohibited, except for uses to control nuisance conditions **with** written approval by the Executive Officer.

6. Reclaimed water shall not be applied to any reclaimed water use area when soils are saturated to the extent that runoff or excessive ponding is likely to occur, during rainfall, or when rainfall is expected to occur within 24 hours.

7. Reclaimed water shall not be sprayed on domestic water supply or food handling facilities, nor on vehicles or publicly accessible areas not under the direct control of the user.

8. Reclaimed water shall not be used as a domestic water supply.

9. There shall be no cross-connection between potable water supply and piping containing reclaimed water. Supplementing reclaimed water with domestic supply water shall not be allowed except through an air-gap separation, or suitable alternative back-flow prevention apparatus which has been approved by the California Department of Health Services.

10. There shall be no irrigation or impoundment of reclaimed water within 100 feet of any domestic water supply well, unless it can be demonstrated to the Executive Officer's satisfaction that special circumstances justify lesser distances to be acceptable.

B. Reclaimed Water Use Specifications

Producer

1. **Unrestricted Use:** Reclaimed water to be used for spray irrigation of food crops, or landscape irrigation of parks, playgrounds, schoolyards, and other areas where public access and exposure is similarly unrestricted, shall at all times be an adequately oxidized, coagulated, clarified, filtered, disinfected wastewater which meets the following quality limits:

a. BOD, 5-day, 20°C	10 mg/l, monthly average maximum 20 mg/l, daily maximum
b. Total Suspended Solids	10 mg/l, monthly average maximum 20 mg/l, daily maximum
c. Oil and Grease	5 mg/l, monthly average maximum 10 mg/l, daily maximum
d. Turbidity	2 NTU, daily average 5 NTU, daily maximum (not to be exceeded more than five percent of the time during any 24-hour period)
e. Dissolved Oxygen	2.0 mg/l minimum, in any grab sample
f. Dissolved Sulfides	0.1 mg/l maximum, in any grab sample
g. Chlorine Residual	1.0 mg/l minimum, after 90 minutes of modal contact time

h. At a point downstream of the disinfection facilities where adequate contact with the disinfectant is assured:

(i) The median number of total coliform organisms shall not exceed 2.2 MPN/100 ml as determined from the bacteriological results of the last seven days for which analyses have been completed; and

(ii) The number of total coliform organisms shall not exceed 23 MPN/100 ml in any sample.

i. Tertiary filter loading rates shall not exceed five gallons per minute per square foot (5 gpm/ft^2).

2. **Restricted Use:** Reclaimed water to be diverted for uses such as turf nursery irrigation, or landscape irrigation of golf courses, freeways, or other areas where public access and exposure is similarly restricted, shall at all times be an adequately oxidized, disinfected wastewater which meets the following quality limits:

a. BOD, 5-day, 20°C	10 mg/l, monthly average maximum 20 mg/l, daily maximum
b. Dissolved Oxygen	2.0 mg/l minimum, in any grab sample
c. Dissolved Sulfides	0.1 mg/l maximum, in any grab sample
d. Chlorine Residual	1.0 mg/l minimum, after 90 minutes of modal contact time

e. At a point downstream of the disinfection facilities where adequate contact with the disinfectant is assured:

(i) The median number of total coliform organisms shall not exceed 23 MPN/100 ml as determined from the bacteriological results of the last seven days for which analyses have been completed; and

(ii) The number of total coliform organisms shall not exceed 240 MPN/100 ml in any sample.

3. Reclaimed water distributed by reverse flow through wastewater collection system pipelines, in addition to all other applicable requirements, shall meet the Total Coliform limits identified in B.2.e. above at the use-end of the pipeline (eg - at the collection system pump station) [See also Provision C.4. of this Order].

4. Reclaimed water distributed through a common distribution system to multiple reuse areas with uses requiring reclaimed water of different qualities shall be of a quality acceptable for all uses.

5. The Producer shall discontinue the distribution of reclaimed water to the irrigation distribution system or to use areas during any period in which the Producer has reason to believe that the applicable requirements specified in B.1., B.2., B.3. or B.4. above are not being met. The distribution of reclaimed water shall not be resumed until all conditions which caused the requirements to be violated have been corrected.

User

6. The User shall manage reclaimed water uses so as to prevent ponding or saturated conditions which could provide breeding conditions for mosquitoes or other vectors of public health significance, and to prevent odors or nuisance conditions.

7. The User shall provide adequate notification to the public of the use or containment of reclaimed water, and that the water is unfit for human consumption. Warning signs shall be posted at adequate intervals around reclaimed water use areas, and around any publicly accessible reclaimed water storage impoundments or open distribution channels. Signs shall be conspicuous, with proper wording and of sufficient size to be clearly read.

8. A User Supervisor should be appointed by the User at each reclaimed water use area. The User Supervisor should be responsible for operating and maintaining the reclaimed water facilities according to the conditions specified in this Order, in order to prevent public health hazards.

9. Irrigation of parks, playgrounds, schoolyards, athletic fields, golf courses or other areas with similar public access and exposure shall occur only when members of the public are absent. Irrigated grounds should have maximum opportunity to dry before being used by the public.

10. At golf courses, notices stating that reclaimed water is used for irrigation shall be printed on all score cards.

11. The User should provide inspections of use areas, and supervision and training for User staff in order to assure proper operation of the reclaimed water distribution and reuse facilities, and proper worker protection. Records of inspections and trainings should be maintained by the User.

General

12. All drinking water facilities and domestic water supply wellheads within 500 feet of any reclaimed water use area shall be protected from direct or wind-blown reclaimed water spray.

13. All domestic water service connections to reclaimed water use areas shall be equipped with an air-gap separation or, if approved by the California Department of Health Services, a reduced pressure principle device.

14. There should be at least a ten-foot horizontal and a one-foot vertical separation between all pipelines transporting reclaimed water and those transporting domestic supply water, with domestic water pipelines above reclaimed water pipelines.

15. In order to prevent the threat of overflows, a minimum freeboard of two (2) feet, or equivalent overflow protection, shall be maintained in any reclaimed water impoundment.

16. All reclaimed water storage impoundments shall be adequately protected from erosion, washout and flooding from a rainfall event having a predicted frequency of once in 10 years.

17. All reclaimed water storage impoundments containing less than tertiary treated effluent shall be protected from erosion, washout and flooding from a flood having a predicted frequency of once in 100 years.

18. All equipment, including pumps, piping, valves, etc. with public access which may at any time contain reclaimed water shall be adequately and clearly identified with warning signs and the Discharger shall make all necessary provisions, in addition, to inform the public that the liquid contained is reclaimed water which is unfit for human consumption.

19. The Discharger shall maintain in good working order and operate as efficiently as possible any facility, equipment or control system installed, or as modified, to achieve compliance with this Order.

C. Provisions

1. The Discharger shall comply with all sections of this Order immediately upon adoption by the Board.

2. The Discharger shall comply with the Self-Monitoring Program as adopted by the Board and as may be amended by the Board's Executive Officer.

3. The use of reclaimed water under this Order shall be limited to the Users and uses identified in Finding 12 of this Order, unless written authorization is obtained from the Board's Executive Officer.

4. The use of reclaimed water distributed by reverse flow through wastewater collection system pipelines shall be allowed only in accordance with a Management Plan acceptable to the Board's Executive Officer.

5. Each year, no later than March 15, the Solano Irrigation District shall submit an Annual Irrigation Plan consisting of a list and map showing users of reclaimed water, crops to be irrigated and method of irrigation. This plan may be modified, consistent with this Order, provided written notification is submitted to the Executive Officer prior to implementing the modificiations. The Executive Officer may withdraw authorization for specific uses or use areas in the event the terms and conditions of this Order are violated.

6. Each year, during the irrigation season, the Solano Irrigation District shall make at least one inspection of each secondaary user of reclaimed water in order to verify compliance with the requirements of this Order. Any violations shall be reported to the Board in writing, within two weeks of the violation occurrence or discovery. The written report shall explain reasons for non-compliance and corrective actions taken.

7. Each year, no later than March 15, the Solano Irrigation District shall submit to the Board a brief report documenting the compliance inspections for the previous year.

8. Violation of Prohibition A.2. or Specification B.15. of this Order as a result of wet weather flows in excess of a 20-year recurrence interval wet weather event shall be evaluated by the Board on a case-by case basis, accounting for actions taken by the Discharger to prevent such violations from occurring.

9. In the event the Discharger is unable to comply with any of the conditions of this Order due to:

   a. Breakdown of transmission or treatment equipment;

   b. Accidents caused by human error or negligence; or

   c. Other causes such as acts of nature,

   the Discharger shall notify the Board by telephone as soon as the Discharger (or agent) has knowledge of the incident.

   Written notification of such incidents shall be submitted within two weeks of the incident. Written notice shall include an explanation of the reasons for non-compliance, and what steps were taken or are planned in order to correct the problem and prevent the problem from recurring.

10. The Discharger shall permit the Board or its authorized representatives, in accordance with California Water Code Section 13267 (c):

    a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

    b. Inspection at reasonable times of any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order;

    c. Access to and copy of, at reasonable times, any records that must be kept under the conditions of this Order; and

    d. To photograph, sample and monitor at reasonable times, for the purpose of assuring compliance with this Order.

11. In the event of any change in control or ownership of land or water reclamation facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this Board.

12. The Discharger shall notify the Board, in writing, at least 60 days before making any material change in the character, location or volume of the reuse, except for emergencies, in which case the Board shall be notified as soon as possible.

13. This Order is subject to review and updating by the Board, as necessary to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics. This Order will be periodically reviewed to determine the need for updating.

14. After notice and opportunity for a hearing, this Order may be terminated or modified for cause including, but not limited to:

    a. Violation of any term or condition of this Order;

    b. Obtaining the Order by misrepresentation, or failure to disclose fully all relevant facts;

    c. A change in any condition that requires either a temporary or permanent change in the authorized reuse;

    d. Endangerment to public health or environment that can only be regulated to acceptable levels by modification or termination of this Order.

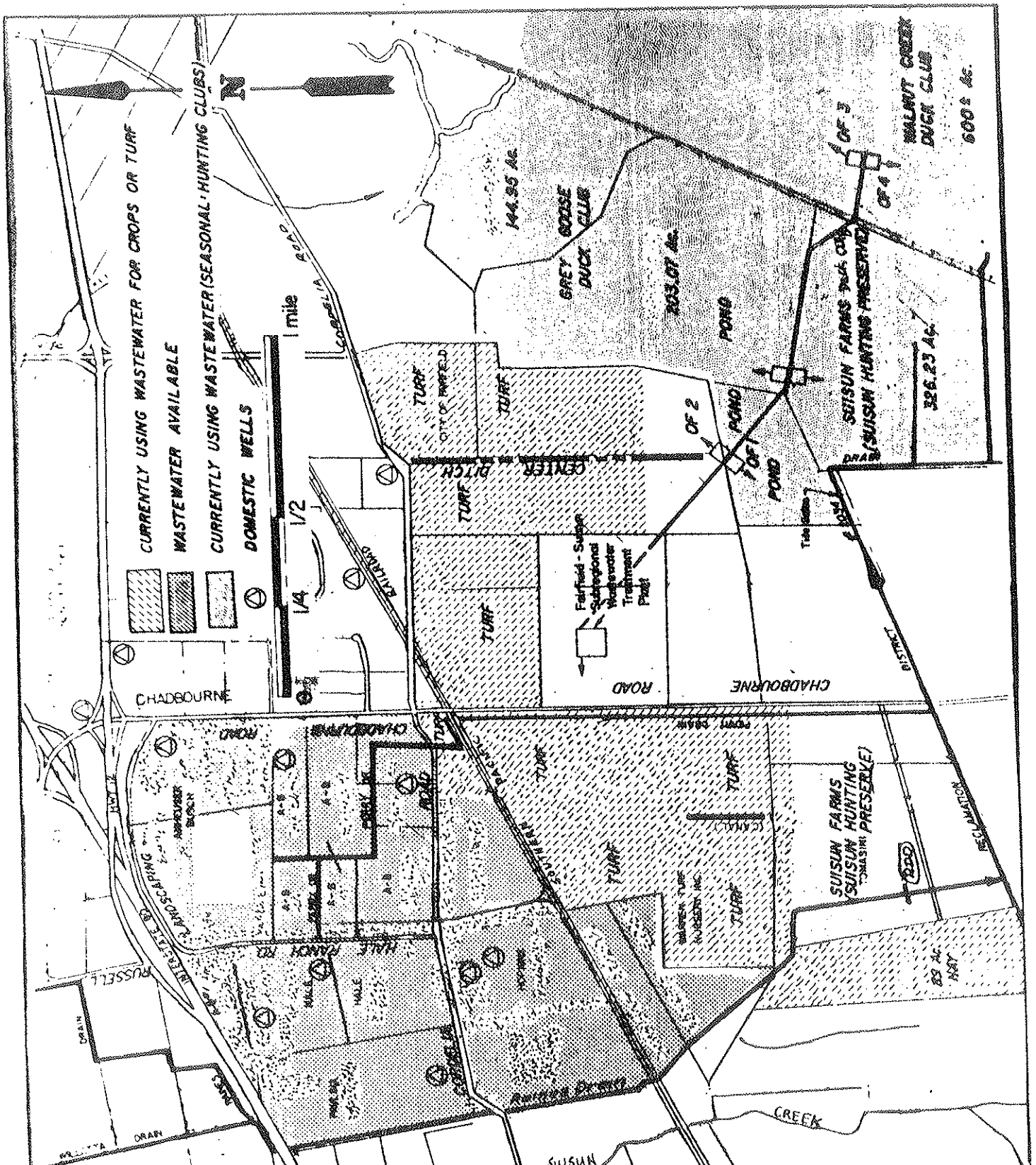
15. The requirements prescribed by this Order supercede the requirements prescribed by Order No. 78-43. Order No. 78-43 is hereby rescinded.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on October 16, 1991.

STEVEN R. RITCHIE
Executive Officer

Attachments:
A. Location Map
Self-Monitoring Program

[File No. 2129.2005]
[Originator/BDA] [Reviewer/RJC]



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT A LOCATION MAP

FAIRFIELD-SUISUN SEWER DISTRICT
TREATMENT PLANT AND
RECLAIMED WATER USE AREAS

DATE: 10-16-91 | ORDER NO. 91-147

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

FAIRFIELD-SUISUN SEWER DISTRICT,

SOLANO IRRIGATION DISTRICT, AND

FAIRFIELD-SUISUN SEWER DISTRICT RECLAIMED WATER USERS

IN SOLANO COUNTY, CALIFORNIA

(WATER RECLAMATION REQUIREMENTS)
(ORDER NO. 91 - 147)

FAIRFIELD-SUISUN SEWER DISTRICT WASTEWATER RECLAMATION SELF-MONITORING PROGRAM

I. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Board's Resolution No. 73-16.

The principle purposes of a self-monitoring program by a waste discharger, or reclaimed water producer or user are:

A. To document compliance with waste discharge requirements and prohibitions established by this Regional Board; and

B. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge or water reclamation.

II. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR S136), or other methods approved and specified by the Executive Officer of this Regional Board.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DOHS), or a laboratory waived by the Executive Officer from obtaining a DOHS certification for these analyses.

The director of the laboratory whose name appears on the certification, or his/her laboratory supervisor who is directly responsible for the analytical work performed shall supervise all analytical work including appropriate quality assurance/ quality control procedures in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

III. DEFINITION OF TERMS

A. SAMPLES

1. A grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples are used primarily in determining compliance with daily maximum or instantaneous maximum limits. Grab samples represent only conditions existant at the time of sample collection.

2. A flow sample is the accurate measurement of the average or total flow volume over a given period of time, using a properly calibrated and maintained flow measuring device.

3. A composite sample is a sample composed of individual grab samples taken from a single sampling location, mixed in proportions to the instantaneous rate of waste flow corresponding to each grab sample (with proportions varying by not more than plus or minus five percent from the instantaneous rate), and collected at regular intervals (typically once per hour) or collected by the use of continuous automatic sampling devices capable of attaining the proportional accuracy stipulated above throughout the sampling period (eg 24 hours).

4. Freeboard is the vertical distance between the water surface and the lowest elevation of the top of the of the water impoundment structure (Perimeter dike, levee, etc.)

B. STANDARD OBSERVATIONS

1. Reclaimed Water Use Areas

(a) Evidence of reclaimed water escaping the reclaimed water use area through surface runoff or airborne spray (Show affected area on a sketch).

(b) Nuisance odor from use area: If present, indicate apparent source, characterization, direction of travel, and any public use area or off-site facility affected.

(c) Evidence of prolonged ponding of reclaimed water, or of mosquitoes breeding within the use area due to ponding.

(d) Warning signs properly posted to inform the public that water being used is reclaimed water which is not safe for drinking.

(e) Evidence of reclaimed water sprayed on vehicles, buildings, domestic water facilities, food handling facilities, or surface waterways.

2. Reclaimed Water Impoundments (Open-Surface Channels)

(a) Freeboard at the lowest point of the perimeter levee or control structure (flashboard, weir, etc.).

(b) Evidence of seepage or overflow from the impoundment. (Show affected area on a sketch, and estimated volume.)

(c) Nuisance odor from impoundment: If present, indicate apparent source, characterization, direction of travel, and any public use area or off-site facility affected.

(d) Warning signs properly posted to inform public that impoundment contains reclaimed water which is not safe for drinking.

3. Overflows, Spillage and Bypasses

(a) Location of overflow or bypass, and description of surface water or land area affected, and description of impact (show on map or sketch of area).

(b) Date and time when overflow or bypass started, and when overflow or bypass ceased.

(c) Estimated total volume discharged (gallons), or flow rate and duration of event.

(d) Explanation of cause, and corrective actions taken.

IV. DESCRIPTION OF SAMPLING AND OBSERVATION STATIONS

NOTES:

(1) A sketch showing locations of all stations described below shall accompany the first monitoring report, and subsequent reports when locations are changed or a violation is reported.

(2) If alternate Station identification codes (other than those listed below) are used, a cross-reference listing of such alternate codes and the associated stations shall be included with the first monitoring report, and subsequent reports when locations or codes are changed.

A. RECLAIMED WATER TREATMENT FACILITIES (FSSD)

Station	Description
1. TREATMENT PLANT EFFLUENT	
E-001-F	Tertiary Filter Effluent At a point in the wastewater treatment stream, downstream of tertiary filtration and upstream of disinfection. (Continuous turbidimeter).
E-001-A	Treatment Plant Effluent At a point in the discharge from the FSSD treatment facilities, following disinfection, at which all waste tributary to the Final Effluent Holding Reservoirs and all other reclaimed water distribution outlets is present. (Effluent quality monitoring).
E-004	Final Effluent/Reclaimed Water At a point in the discharge from the Final Effluent Holding Reservoirs, prior to the SID reclaimed water distribution system. (Flow).

B. RECLAIMED WATER DISTRIBUTION SYSTEM (SID)

1. OUTLETS TO USE AREAS

OUT - 1 through OUT - 'n'	Located at the distribution system outlets to each reclaimed water use area, suitable for measuring the total flow of reclaimed water distributed to the use area. (Flow monitoring).

2. OPEN-SURFACE CHANNELS

CH - 1 through CH - 'n'	Located at points along all open-surface reclaimed water distribution channels, with points spaced about 1000 feet apart. (Standard Observations, III.B.2.).

C. RECLAIMED WATER USE AREAS (USERS)

Station	Description

1. USE AREA PERIMETER

UA - 1 through UA - 'n'	Points located at about 1000 foot intervals around the perimeter of each reclaimed water use area. (Standard Observations, III.B.1.).

D. OVERFLOWS (SID AND USERS)

OV - 1 through OV - 'n'	Located at any point in the distribution system or use area facilities where an overflow of reclaimed water to any surface waterway occurs. (Standard Observations, III.B.3.)

V. SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSES

A. The Producer and/or Users of the reclaimed water are required to perform observations, sampling, measurements and analyses according to the schedule given in Table 1 and Table 1 Footnotes (Attachment A).

B. This Self-Monitoring Program is applicable during any period when reclaimed water is distributed from the FSSD treatment plant to the reclaimed water distribution system, or used at any reclaimed water use area.

VI. REPORTS TO BE FILED WITH THE REGIONAL BOARD

A. Self-Monitoring Reports

Written reports shall be filed regularly for each calendar month during any month when reclaimed water is produced, distributed or used. Reports shall be submitted to this Regional Board's office no later than the fifteenth day of the following month, and shall include the following:

1. Letter of Transmittal

The letter of transmittal shall include the following:

- o The Discharger's name, address, phone number and contact person(s);
- o The monitoring period being reported, by month and year;
- o The name of the responsible Regional Board staff member;
- o Discussion of all requirement violations found during the monitoring period, including the causes of the violations and corrective actions taken or planned in order to prevent future violations (References to reports previously submitted describing corrective actions and/or implementation schedules are acceptable.); and
- o When applicable, discussion of any special or unusual events pertinent to maintaining compliance with waste discharge requirements, such as failure, repair, replacement or installation of major equipment, or significant operational changes or improvements.

The transmittal letter shall contain a statement by the Discharger, or the Discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

2. Results of Analyses and Observations

(a) Tabulations of the results from all required analyses and observations specified in Table 1 and Table 1 Footnotes (Attachment A) by date, time, type of sample or observation, and sample or observation station.

(b) Copies of Reclaimed Water User's Reports (Attachment B) or an equivalent summary of observations.

B. Report of Permit Violation

In the event the Discharger violates, or threatens to violate the conditions of the waste discharge requirements and prohibitions due to:

1. Maintenance work, power failure, or breakdown of wastewater transport or treatment equipment;

2. Accidents caused by human error or negligence; or

3. Other causes such as acts of nature,

the Discharger shall notify the Regional Board office by telephone as soon as the Discharger or the Discharger's agents have knowledge of the incident.

A written report shall be submitted within two weeks of the noncompliance event, unless directed otherwise by Regional Board staff. The written report shall include a description of the event, results of any sampling conducted during the event, an explanation of the reasons for noncompliance, actions taken to correct the problem and the dates thereof, and actions being taken to prevent the problem from recurring.

I, Steven R. Ritchie, Executive Officer of the California Regional Water Quality Control Board, San Francisco Bay Region, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with water reclamation requirements established in this Board's **Order No. 91 -147.**

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and, if necessary, revisions will be ordered by the Executive Officer.

STEVEN R. RITCHIE
Executive Officer

Effective Date _____

Attachments:
A. Table 1 - Schedule for Sampling, Measurements and Analyses; and Table 1 Footnotes
B. Reclaimed Water User's Report

[File No. 2129.2005]
[Originator/BDA]
[Reviewer/RJC]

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS AND ANALYSES (1)

(FAIRFIELD-SUISUN SEWER DISTRICT WASTEWATER RECLAMATION)

SAMPLING STATIONS -->	Footnote	E-001-F	E-001-A		E-004	All OUT	All CH & UA	All OV
Type of Sample -->		Cont	G	C-24 Flow	Flow	Flow	O	O
Parameter (units)								
Flow Rate (MGD or gpd)	(2)			Cont	Cont	Cont		E
Flow Volume (MG or gal)	(2)				M	M		E
BOD, 5-day (mg/l)				3/W				
Total Suspended Solids (mg/l)				3/W				
Oil and Grease (mg/l)	(3)			M				
Turbidity (NTU)	(4)	Cont	D					
Chlorine Residual and Dosage (mg/l) & (kg/d)	(5)			Cont				
pH (units)			D					
Dissolved Oxygen (mg/l)			D					
Dissolved Sulfide (mg/l)	(6)		D					
Total Coliform (MPN/100 ml)			D					
Ammonia Nitrogen (mg/l)				W				
Nitrate Nitrogen (mg/l)				W				
Total Organic N (mg/l)				W				
Total Phosphate (mg/l)				W				
All Applicable Standard Observations	(7)						2W	E

LEGEND:

Type of Sample
- Cont = Continuous
- C-24 = 24-hour composite
- G = Grab sample
- Flow = Flow measurement
- O = Observations

Sampling Frequency
- Cont = Continuous
- D = Daily
- 3/W = Three days per week
- W = Weekly
- 2W = Every two weeks
- M = Monthly
- E = Each event

TABLE 1 FOOTNOTES

(1) This Self-Monitoring Program is applicable during any period when reclaimed water is distributed from the FSSD treatment plant to the reclaimed water distribution system, or used at any reclaimed water use area.

(2) Flow Rate and Volume: Flows shall be monitored continuously, and the following measurements reported:
a. E-001-A: Average daily flow rate (MGD);
b. E-004: Average daily flow rate (MGD), and
Total monthly flow volume (MG);
c. All 'OUT' Stations: Average daily flow rate (MGD or gpd),
and Total monthly flow volume (MG or gal);
d. All 'OV' Stations: Average flow rate (gpm, gpd, etc.),
Total flow volume (MG or gal), and
total duration of overflow (hours, days, etc.).

(3) Oil & Grease: Each sampling shall consist of three grab samples taken at equal intervals during the sampling day, with each grab sample being collected in a glass container. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus five percent. The combined sample shall be analyzed as a composite.

(4) Turbidity: Station E-001-F: Continuous turbidity monitoring using a continuous recording turbidimeter, located downstream of the filtration units, and upstream of the disinfection (chlorination) facility.
Report daily maximum and minimum turbidity levels (NTU; Nephelometric Turbidity Units), and the percent of time in excess of 5 NTU, for each day.

(5)(a) Chlorine Residual: Continuous monitoring. Report daily maximum and minimum concentrations (mg/l).

(b) Chlorine Dosage: Report on a daily basis, average concentration (mg/l), and total loading (kg/day).

(6) Dissolved Sulfides: Analysis required only when Dissolved Oxygen is less than 2.0 mg/l.

(7) Observations must be made while reclaimed water is being used. Users (or designated agent) shall conduct, at the sampling stations and frequency indicated in Table 1, the applicable Standard Observations defined in Part III.B. of this Self-Monitoring Program.

A Reclaimed Water User's Report (Attachment B), or equivalent observation information, shall be completed for each use area, on a monthly basis, and included with the monthly Self-Monitoring Report submitted to the Board.

RECLAIMED WATER USER'S REPORT

1. Name of User: _____

2. Name or Location of Use Area: _____

3. Reporting Period (Month/Year): _____

4. Circle dates when reclaimed water was used: 1 2 3 4 5 6 7 8 9 10

   11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

5. Total Monthly Flow used (Gallons): _____

6. Required Standard Observations (As defined in SMP Part III.B.):
   [For each inspection, record date, time, and 'yes' or 'no' for each observation, according to observed conditions.]

Inspection Date and Time:					
Observation Stations Inspected:					
Escape of Reclaimed Water from Use Area					
Nuisance Odors from Reclaimed Water					
Prolonged Ponding of Reclaimed Water					
Mosquito Breeding					
Warning Signs Not Properly Posted					
Spray on Waterways, Vehicles, etc.					

If any of the above observations were yes, a written report containing the following information shall be submitted:

a. Show location of violation on a sketch of the site.
b. Explain cause and extent of violation.
c. Describe corrective actions taken, date(s) compliance was achieved, and date/time reclaimed water use resumed.

7. I certify that the information in this report, to the best of my knowledge, is true and correct.

_____ _____

Signature of User Supervisor (or Designated Agent) Date